



Fig. 1: Male and female specimens of *Hoplobatrachus crassus* (Jerdon 1853)

of arm 1.7-3.8, Tympanum 0.35-0.7, Length of hand 0.83-1.6, 1st finger 0.5-0.8, second finger 0.4-0.7, 3rd finger 0.6-1.1, 4th finger 0.3-0.6, Length of leg 5.5-11.0, Length of Tibia 1.8-3.0, Length of Foot 0.85-3.6, 1st Toe 0.25-0.5, 2nd Toe 0.4-0.7, 3rd Toe 0.65-1.1, 4th Toe 0.95-2.3, Fifth Toe 0.7-1.1. Tibiotarsal articulation reaches tympanum.

H. crassus shares a common habitat with *H. tigrinus* (Daudin 1803).

23. DISTRIBUTION OF FISH IN THE MANJESWARAM RIVER, KASARAGOD (KERALA)

Distribution of freshwater fishes of northern Kerala, north of the Palghat Gap, was studied by various workers in the past (Rajan 1955, Mukerji 1931, Rema Devi and Indra 1986). Recently Shaji and Easa (1997) reported on the hill stream fishes of the Kerala portion of Nilgiri

Biosphere Reserve. However, there has been no record of the fish fauna of the rivers flowing through Kasaragod dist., Kerala.

The Manjeswaram river, one of the smaller rivers in Kerala, was surveyed during October-November 1997. This river originates at 60 m

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above msl, from the shrub-covered hills situated at the northern border of Kerala, in Kasaragod dist. This river has a length of 16 km and a catchment area of 90 sq. km, width of about 10-50 m and depth. 2-9 m. The bottom is sandy or muddy in most parts.

Collections were made, using cast net, gill net and scoop net of varying mesh size. A total of 20 species representing 11 families were collected, as listed below:

FAMILY ANGUILLIDAE

1. *Anguilla bengalensis bengalensis* (Gray)

FAMILY CYPRINIDAE

Subfamily - Cyprininae

2. *Puntius amphibius* (Val.)
3. *P. filamentosus* (Val.)
4. *P. vittatus* Day

Subfamily - Rasborinae

5. *Danio aequipinnatus* (McClelland)
6. *D. malabaricus* (Jerdon)
7. *Parluciosoma daniconius* (Ham.-Buch.)

Subfamily - Garrinae

8. *Garra mullya* (Sykes)

FAMILY BAGRIDAE

9. *Mystus gulio* (Ham.-Buch.)
10. *M. armatus* (Day)

FAMILY BELONIDAE

11. *Xenentodon cancila* (Ham.-Buch.)

FAMILY APLOCHEILIDAE

12. *Aplocheilus lineatus* (Val.)

FAMILY THERAPONIDAE

13. *Therapon jarbua* (Forsk.)

FAMILY GERREIDAE

14. *Gerres lucidus* (Cuvier)

FAMILY CICHLIDAE

15. *Etoplus maculatus* (Bloch)
16. *E. suratensis* (Bloch)
17. *Oreochromis mossambica* (Peters)

FAMILY MUGILIDAE

18. *Mugil cephalus* Linn.

FAMILY GOBIDAE

19. *Glossogobius giuris* (Ham.-Buch.)

FAMILY BELONTIDAE

Subfamily - Macropodinae

20. *Macropodus cupanus* (Val.)

Freshwater fish are a small part of the biodiversity in the small rivers of Kasaragod dist., compared to other rivers in Kerala. This may be because of few habitat types in this river. The chief substratum in most parts of this river is sand and mud. Hence *Puntius amphibius*, *Parluciosoma daniconius*, *Danio malabaricus*, *Aplocheilus lineatus* and *Glossogobius giuris* are the most abundant and uniformly distributed fishes in this river.

Marine species like *Therapon jarbua*, *Gerres lucidus* and *Mugil cephalus* were collected in large numbers from the river mouth and also a few kilometres away from the sea.

A total of 20 species belonging to 11 families were collected from this river, most of which are widely distributed throughout Kerala.

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24. OCCURRENCE OF *TETRAODON TRAVANCORICUS* (HORA AND NAIR) IN THE CHALAKUDY, PERIYAR AND KECHERY RIVERS, KERALA

Malabar puffer fish (*Tetraodon travancoricus*) is a small species of less than 3 cm total length. Hora and Nair (1941) reported this species from Pamba river, Kerala. After a long period, this species was reported again from inundated brickyards at Pudukkad, Trichur, Kerala (Inasu 1993). Apart from these observations, there was no report on this fish from other rivers in Kerala.

Distinguishing Characters: D 7-8; A 8; P 16-18

T. travancoricus is characterised by an oblong and laterally compressed body; arched dorsal profile, highest at the middle of back; flat inter-orbital space; terminal mouth that is directed forward; nostril a hollow tube, nearly as high as wide, only its distalmost part formed into two very small lobes which are bent inwards, giving a key-hole appearance to the nares.

Remarks: Specimens were collected from Kanakkankadavu area of Chalakudy river, Thattakad and Kalady regions of Periyar river and Puzhakkal area of Kechery river, and this is the first report of the species. This species was not reported by earlier studies conducted in the Chalakudy and Kechery rivers (Thobias 1973, Antony 1973 and Inasu 1991).

In a study on the sexual dimorphism, Inasu (1993) reports, all the males of this species should

have a dark bluish ventral band from mouth to the caudal region. However, we observed that the number of males with the above mentioned character were less than the female specimens. Out of the 56 specimens collected from Chalakudy river, only four specimens appeared male. Furthermore, it appeared in large groups, occasionally in hundreds, observed mainly during the summer months (January to May) and very rarely during the rainy season. Local fishermen consider this fish as "frog tadpoles". The present report extends its distribution to three more rivers in Kerala.

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